

CLEAN COPY OF AMENDED CLAIMS AND NEW CLAIMS:

1. (five times amended) A claw pole type actuator of a single-phase structure, comprising:
a stator yoke composed of a pair of substantially circular planar yokes formed of a soft magnetic material, a number N of polar teeth which axially protrude from inner peripheral edges of the respective planar yokes and which are disposed to face each other, extending in an axial direction, wherein each of said polar teeth has the same circumferential length, wherein said polar teeth stay within a range of $220/N$ to $260/N$ degrees at central angle, and wherein said polar teeth are disposed respectively at a spacing of approximately 180 degrees in terms of an electrical angle, and a cylindrical ring provided on outer peripheral edges of one of said planar yokes;

an armature being constituted by installing a coil formed by winding a magnetic wire in a coil receiving section shaped like an annular recess formed by said planar yokes, said polar teeth, and said cylindrical ring of said stator yoke;

a rotor being concentrically disposed within the stator yoke and being adapted for repetitive rotational movement within a set angular range in response to energization of said coil, said angular range being less than 360° and having its endpoints defined by a first angular position and a second angular position, and wherein said rotor is further adapted to be held in either said first angular position or said second angular position by a magnetic detent torque when said coil is deenergized, said rotor having a magnet, said magnet having a number N of magnetic poles, wherein a relationship between said detent torque and a rated torque is expressed as $T_{rate}/4 \leq T_d \leq 3 \cdot T_{rate}/4$, wherein T_{rate} denotes a maximum torque value in Nm when a rated current is passed, and wherein T_d denotes a maximum torque value in Nm when a coil is in a deenergization mode; and

a stator assembly which has flanges with a bearing provided on both end surfaces of said armature and in which said rotor being installed to face said polar teeth of said stator with a minute gap provided therebetween, wherein said flanges are composed of a nonmagnetic material;

wherein a number of said polar teeth equals the number N of rotor magnetic poles.

2. (twice amended) An actuator according to Claim 1, wherein said stator yoke is comprised of a first stator yoke in which a planar yoke and a polar tooth are combined into one

piece, and a second stator yoke in which a planar yoke, a polar tooth and a cylindrical ring are combined into one piece.

18. (new) An actuator according to Claim 1, wherein the number of rotor magnetic poles is two.

19. (new) An actuator according to Claim 1, wherein said bearings are composed of a nonmagnetic material or a nonferrous oil-impregnated metal.

20. (new) An actuator according to Claim 1, wherein said actuator is implemented as an actuator for a shutter of a camera.

21. (new) A claw pole type actuator of a single-phase structure, said actuator comprising:
a stator yoke composed of a pair of substantially circular planar yokes formed of a soft magnetic material, a number N of polar teeth which axially protrude from inner peripheral edges of the respective planar yokes and which are disposed to face each other, extending in an axial direction, and a cylindrical ring provided along the outer peripheral edge of one of said planar yokes;

an armature being constituted by installing a coil formed by winding a magnetic wire in a coil receiving section shaped like an annular recess formed by said planar yokes, said polar teeth, and said cylindrical ring of said stator yoke;

a rotor being concentrically disposed within the stator yoke and being adapted for repetitive rotational movement within a set angular range in response to energization of said coil, said angular range being less than 360 degrees and having its endpoints defined by a first angular position and a second angular position, and wherein said rotor is further adapted to be held in either said first angular position or said second angular position by a magnetic detent torque when said coil is deenergized, said rotor having a substantially cylindrical magnet, said magnet having a number of magnetic poles equal to the number N of said polar teeth, and wherein either magnetic pole of said magnet is axially cut to forcibly destroy magnetic balance between the magnetic poles; and

a stator assembly which has flanges with a bearing provided on both end surfaces said armature, and in which said rotor is installed to face said polar teeth with a minute gap provided therebetween.

22. (new) An actuator according to Claim 21, wherein the number of rotor magnetic poles is two.

23. (new) An actuator according to Claim 21, wherein said stator yoke is comprised of a first stator yoke in which a planar yoke and a polar tooth are combined into one piece, and a second stator yoke in which a planar yoke, a polar tooth, and a cylindrical ring are combined into one piece, and wherein said polar teeth are respectively disposed at a spacing of approximately 180 degrees in terms of an electrical angle.

24. (new) An actuator according to Claim 21, wherein a pair of stator yokes, each being composed of said planar yoke and said cylindrical ring that are combined into one piece, are disposed to face each other.

25. (new) An actuator according to Claim 21, wherein the cut of said magnet is set within a range of 45 degrees to 80 degrees at central angle.

26. (new) An actuator according to Claim 21, wherein the cut of said magnet is positioned parallel to the neutral of said magnet.

27. (new) An actuator according to Claim 21, wherein the north pole of said magnet is axially cut.

28. (new) An actuator according to Claim 21, wherein the south pole of said magnet is axially cut.

29. An actuator according to Claim 20, wherein said flanges are composed of a nonmagnetic material.

30. (new) An actuator according to Claim 20, wherein said bearings are composed of a nonmagnetic material or a nonferrous oil-impregnated metal.